

Amended Claims

1-39. (Cancelled).

40. (New) A line arrangement for electrical systems of vehicles, comprising:

an electrical supply line running from a current feed terminal to a current delivery terminal and having at least one current-carrying inner conductor and at least one protective sheath surrounding the inner conductor,

a detector element which runs along the supply line and is formed in such a way that its electrical and/or optical behavior is irreversibly changed when a local arc originating from the current-carrying inner conductor occurs, and

an isolating circuit connected to the current feed terminal to isolate the current-carrying inner conductor from a current source when the electrical and/or optical behavior of the detector element changes.

41. (New) A line arrangement according to claim 40, wherein the detector element is formed in such a way that it irreversibly deteriorates in its electrical and/or optical behavior under the local effect of heat.

42. (New) A line arrangement according to claim 40, wherein the detector element surrounds the supply line.

43. (New) A line arrangement according to claim 40, wherein the detector element comprises at least one electrical and/or optical detector line, the electrical and/or

optical behavior of which is irreversibly changed when the arc occurs.

44. (New) A line arrangement according to claim 43, wherein the detector line runs in the form of a helix.
45. (New) A line arrangement according to claim 43, wherein the detector line runs in the form of meanders.
46. (New) A line arrangement according to claim 43, wherein portions of the detector line following one another in a longitudinal direction of the supply line and running transversely in relation to the longitudinal direction of the supply line are spaced apart from one another by a spacing which is less than approximately the diameter of the inner conductor.
47. (New) A line arrangement according to claim 43, wherein the detector line consists of a material which irreversibly changes in its electrical and/or optical behavior when there is local ingress of an amount of heat that can be generated by the arc.
48. (New) A line arrangement according to claim 43, wherein the detector line consists of a material which irreversibly changes in its electrical and/or optical behavior from a threshold temperature, which lies in the range from approximately 100°C to approximately 500°C.
49. (New) A line arrangement according to claim 43, wherein the detector line is surrounded by an insulating protective enclosure.

50. (New) A line arrangement according to claim 40, wherein the detector element has a carrier on which the detector line is held.
51. (New) A line arrangement according to claim 50, wherein the detector line is disposed in the form of conducting tracks on the carrier.
52. (New) A line arrangement according to claim 51, wherein the conducting tracks run in the manner of meanders on the carrier.
53. (New) A line arrangement according to claim 51, wherein the carrier is given the form of a carrier strip.
54. (New) A line arrangement according to claim 53, wherein the carrier strip runs helically around the supply line.
55. (New) A line arrangement according to claim 50, wherein the carrier surrounds the supply line at least partially.
56. (New) A line arrangement according to claim 50, wherein the carrier encloses the supply line substantially completely.
57. (New) A line arrangement according to claim 50, wherein the carrier forms part of a protective enclosure for the detector line.
58. (New) A line arrangement according to claim 50, wherein the carrier consists of a material which irreversibly

changes under the effect of the arc originating from the inner conductor.

59. (New) A line arrangement according to claim 58, wherein the carrier consists of a material which irreversibly deforms under the effect of the arc originating from the inner conductor.
60. (New) A line arrangement according to claim 58, wherein the carrier consists of a material which irreversibly decomposes under the effect of the arc originating from the inner conductor.
61. (New) A line arrangement according to claim 58, wherein on account of its irreversible change under the local effect of the arc, the carrier irreversibly changes the electrical and/or optical behavior of the detector line.
62. (New) A line arrangement according to claim 61, wherein the carrier locally interrupts the detector line.
63. (New) A line arrangement according to claim 40, wherein the detector element irreversibly changes in its electrical and/or optical behavior when it is mechanically damaged.
64. (New) A line arrangement according to claim 40, wherein the detector element changes in its electrical and/or optical behavior when it undergoes mechanical damage caused by a mechanical component at a potential other than that of the detector line.

65. (New) A line arrangement according to claim 63, wherein the detector line irreversibly changes in its electrical and/or optical behavior when the detector element undergoes mechanical damage.
66. (New) A line arrangement according to claim 65, wherein the detector line irreversibly deteriorates in its behavior with regard to the passing through of electrical and/or optical signals when it undergoes mechanical damage.
67. (New) A line arrangement according to claim 40, wherein the detector line lies in a circuit specific to the detector line.
68. (New) A line arrangement according to claim 40, wherein at least one detector circuit is provided which activates the isolating circuit.
69. (New) A line arrangement according to claim 68, wherein the detector circuit is associated with the current feed terminal.
70. (New) A line arrangement according to claim 68, wherein the detector circuit is associated with the current delivery terminal.
71. (New) A line arrangement according to claim 68, wherein the detector circuit communicates with the isolating circuit by means of an electrical line.

72. (New) A line arrangement according to claim 68, wherein the detector circuit communicates with the isolating circuit by means of a light guide.
73. (New) A line arrangement according to claim 68, wherein:
a number of detector circuits are provided, and
the detector circuits communicate with one another to sense a change of the electrical and/or optical behavior of the detector element.
74. (New) A line arrangement according to claim 73, wherein the detector circuits communicate with one another via an internal line within the line strand.
75. (New) A line arrangement according to claim 73, wherein the detector circuits communicate with one another via an external line outside the line strand.
76. (New) A line arrangement according to claim 73, wherein the detector circuits communicate with one another via an electrical line.
77. (New) A line arrangement according to claim 73, wherein the detector circuits communicate with one another via an optical line.
78. (New) A line arrangement according to claim 68, wherein the detector circuit detects the occurrence of a potential in the detector line other than that of the detector line.